

Appendix B - Conducted RFI Susceptibility Testing

Conducted RFI Susceptibility Testing

You can determine whether or not your equipment is susceptible to conducted RFI by subjecting it to pre-determined levels of CM and DM interferences, and noting any malfunctions that occur. Such a test approximates real-world interference by standardized test conditions, according to previous experience. Tyco Electronics recommendation for conducted susceptibility testing follows. The equipment required will be:

1. Shielded room, to eliminate spurious signals.
2. Two 50 ohm line impedance stabilization networks (LISNs).
3. 50 ohm signal generator, 1 watt output.
4. 50 ohm (or less) pulse generator, 0 to 300 volts output.

CW signals should be injected common-mode, using peak levels of:

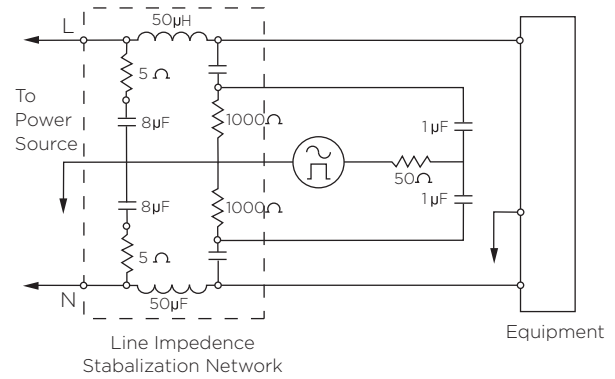
- 7 volts from 10kHz to 150kHz
- 2 volts from 150kHz to 500kHz
- 1 volt from 500kHz to 30MHz

Pulse waveforms should be injected common mode and differential mode, pulse width 10 microseconds, rise time 1 microsecond, repetition rate 60Hz and varied in phase 0 to 360 degrees on the 60Hz power waveform. CM pulses should have peak levels of 2 volts; DM pulses should have peak levels of twice the rated line voltage.

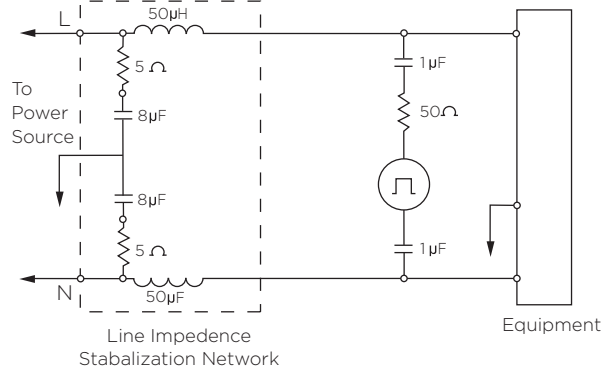
These levels are based on emission data gathered at Tyco Electronics and are considered typical of the levels encountered close to high noise sources.

Figure A3

A. Common Mode



B. Differential Mode



Appendix C - Health Care Equipment

UL 60601-1 Medical Electrical Equipment

The major safety standard for electro-medical devices is the IEC 60601 series, with the IEC 60601-1 standard covering all generic requirements. This standard is the basis of the various harmonized equivalents, the European equivalent is EN 60601, the UL equivalent is UL60601-1 and the CSA equivalent is C22.2 No. 60601-1

Underwriters Laboratories' medical electrical equipment specification is broken down into two basic categories.

A. Patient Care Equipment: "Equipment that is intended to be used on or with, or likely to be contacted by, a patient in a health care facility in the course of his treatment." This equipment can have a maximum leakage current of 100 micro amps at 120VAC, 60Hz.

B. Non-patient Equipment: "Equipment primarily for use in a health care facility that is intended for use where contact with a patient is unlikely." This equipment can have a maximum leakage current of 300 micro amps at 120VAC, 60Hz.

All filters starting with "H" and "M" are for medical equipment applications. They can be used in both patient care equipment and non-patient equipment. All other Corcom products with an "E" in the part number are suitable for use only in (120V) non-patient equipment.